

Figure 1A

SEQ ID NO:18	-----	
SEQ ID NO:22	TKTSAPFLFTLSLRNMTTEERNVRKTRV-----VDVVLDVPIPIDDPKDRDAVSQVC	
SEQ ID NO:20	MGGEAP-----EARRLDRAMSGGAGSIPEEALHLVLGYVDDPRDREAVSLVC	
SEQ ID NO:37	<u>M-----EDPDIKRCKL--SCVATVDDVIEQVMTYITDPKDRDSASLVC</u>	60
	<u>1</u>	
SEQ ID NO:18	-----	
SEQ ID NO:22	RRWYELDSLTRKHVTIALCYTTTPARLRRRFPHPHLESKLKGKPRAAMFNLIPEDWGGHVT	
SEQ ID NO:20	RRWHRIDALTRKHVTVPFCYAAASPAHLARFPRLLES LAVKGKPRAA MYGLIPEDWGAYAR	
SEQ ID NO:37	<u>RRWFKIDSETREHVTMALCYTATPDRLSRFPNRLSLKKGKPRAAMFNLIPEWGGYVT</u>	120
	<u>61</u>	
SEQ ID NO:18	-----	
SEQ ID NO:22	PWVKEISQYFDCLKSLHFRMIVKSDLQNLARDRGHVLHALKDKCSGFTTDDGLFHI	
SEQ ID NO:20	PWVAELAAPLECLKALHLRRMVVTDLALVRARGHMLQELKDKCSGFSTDALRLVAR	
SEQ ID NO:37	<u>PWVTEISNNLRQLKSVHFRMIVSDLDLDR LAKARADDLET LKDKCSGFTTDDGLLSIVT</u>	180
	<u>121</u>	
SEQ ID NO:18	-----	
SEQ ID NO:22	--RGLETLFLEESTIDEKENDEWIRELATSNSVLETNFFLTDL-RASPEYLTLLVRNCQ	
SEQ ID NO:20	FCKSLRVLFLEESSILEKD-GEWLHELALNNTVLETNLFYLTDIADV KIEDLELLAKNCP	
SEQ ID NO:20	SCRSLRTL FLEEC SIADNGT-EWLHDLAVNNPVLETNLFHMT EL-TTVVPADLELLAKKCK	
SEQ ID NO:37	<u>HCRKIKTLLMEESSFSEKD-GKWLHEL AQHNTSLEVLNFYMT EFAKISP KDL ETIARNCR</u>	240
	<u>181</u>	

Figure 1B

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SEQ ID NO:18  RLKTLKISECFMPDLVSLFRTAQTLEAFAGSFEEQGPVASRNYENYFFPPSLHRLSLL      300
SEQ ID NO:22  NLVSVKLTDCIILDVNFVKHASALEEFCGGTYNE--E---PERYSAISLPAKLCRLGLT
SEQ ID NO:20  SLISLKISDCDFSLDIGFFRMAASLQEFAGGAFIEQGELT---KYGNVKFPSPRLCSLGLT
SEQ ID NO:37  SLVSVKVGDFEILELVGFFKAAANLEEFCCGSLNE--DIGMPEKYMNLVFPFKLCRLGLS      300
241

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SEQ ID NO:18  YMGTNMQIILFPYATALKKLDLQFTFLSTEDHCQIVQRCNSNLETLEVRDVIGDRGLQVVA
SEQ ID NO:22  YIGKNELPIVFMFAAVLKKLDLLYAMLDTEHDHCLIQPCPNLEVLTRNVIGDRGLEVLG
SEQ ID NO:20  YMGTNEMPIIFPFSALLKKLDLQYFTLTEDHCQLIAKCPNLLVLAVRNVIGDRGLGWVA
SEQ ID NO:37  YMGPNEMPILFPFAAQIRKLDLLYALLETEHDHCTLIQKCPNLEVLTRNVIGDRGLEVLA      301
360

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
SEQ ID NO:18  QTCCKLHRLRVERGDDDDQGGLEDEQGRISQVGLMAIAQGCPELTYYWAIHVSDITNAALEA
SEQ ID NO:22  RCCKRLKRLRIERGDDDDQG-MEDEEGTVSHRGLIALSQGCSELEYMAVYVSDITNASLEH
SEQ ID NO:20  DTCKKLQRLRVERGDDDDPG-LQEEQGGVSQVGLTTVAVGCRELEYIAAYVSDITNGALES
SEQ ID NO:37  QYCKQLKRLRIERGADEQG-MEDEEGLVSQRGLIALAQGCQCELEYMAVYVSDITNESLES      420
361

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SEQ ID NO:18  VGTCCKNLNDFRLVLLDREAHITELPLDNGVRALLRGCTKLRFAFYVRPGALSDVGLGY
SEQ ID NO:22  IGTCLKNLCLDFRLVLLDHEEKITDPLDNGVRALLRGCDKLRFRFALYLRGGGLTDVGLGY
SEQ ID NO:20  IGTFCCKNLCLDFRLVLLDREERITDPLDNGVRALLRGCTKLRFRFALYLRPGGLSDTGLGY
SEQ ID NO:37  IGTYLKNLCLDFRLVLLDREERITDPLDNGVRSLLIGCKKLRFRFAFYLRQGGLTDLGLSY      480
421

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Figure 1C

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SEQ ID NO:18 VGEFSKSIRYMLLGNVGESDNGIIQLSKGCPSLQKLEVRGC-LFSEHALALAAALQLKSLR ***
SEQ ID NO:22 IGQYSPNVRWMLLGYVGESDAGLLEFAKGCPSLQKLEMRGCLFFSERALAVAATQLTSLR ***
SEQ ID NO:20 IGQYSGIIQYMLLGNVGETDDGLIRFALGCENLRKLELRSC-CFSEQALARAIRSMPSLR ***
SEQ ID NO:37 IGQYSPNVRWMLLGYVGESDEGLMEFSRGCPNLQKLEMRGC-CFSERAIAAAATKLP SLR
481
***** * * * * * *****
SEQ ID NO:18 YLWVQGFSSPTGTDIMAMVRPFWNIEYIVP-----DQDEPCPEHKRQILAYYSLA *****
SEQ ID NO:22 YLWVQGYGVSPSGRDLMLMARPFWNIELI-PSRKVATNTNPDETVVVEHPAHILAYYSLA
SEQ ID NO:20 YVWVQGYKASKTGHDLMMLMARPFWNIEFTPPSSENANRMREDGEPVCVDSQAQILAYYSLA
SEQ ID NO:37 YLWVQGYRASMTGQDLMQMARPYWNIELI-PSRRVPEVNQQGEIREMEHPAHILAYYSLA
541
600
* * * * *
SEQ ID NO:18 GRRTDCPPSVTLLYPAF-----
SEQ ID NO:22 GQRSDFPDVTVPPLDTATCVDT
SEQ ID NO:20 GKRSDCPRSVPVLYPA-----
SEQ ID NO:37 GQRTDCPTTVRVLKEPI-----
601
621

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Figure 2A

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***
SEQ ID NO: 30 MPVMAPTASL---LLSPRPLPASRRVPSPSPA-----LSASGRLRLRRARADTRLRVA
SEQ ID NO: 32 MALPHSISALATTLTLSSPITKPHKVNPFSSNRNSQFLTKQTRPSRRNLSLTPARVA
SEQ ID NO: 36 -----LRVA
SEQ ID NO: 38 MRATIPALS-----LVTPR-----LPSLAV-----PLAGGRLR-EGGRSRTRLRVA
1 60

** *
SEQ ID NO: 30 APPSVPGEAD--QAPGETEPSTSSAD---EKFVWRDHWYPVSLVEDLDPSVPTPFQLLNR
SEQ ID NO: 32 APPSTVEADRLYPEAENNETEEEFSDSSKFTWRDHWYPVSLIEDLNPLLPFPQLLGR
SEQ ID NO: 36 APTSVPGAE--RAEEPSTSTSPESSEKGFWRDHWYPVSLVEDLDPRVPTPFQLLNR
SEQ ID NO: 38 APTSVPGEAA--EQAEPTSAPES----GEKFSWRDHWYPVSLVEDLDPSRPTPFQLLNR
61 120

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SEQ ID NO: 30 DLVIWKDPKSGEWVALDDRCPHRLAPLSEGRIDETGCLQCSYHGWSFDGSGACTRIPQAA
SEQ ID NO: 32 EIVLWYDKSISQWVAFDDKCPHRLAPLSEGRIDEDGKLQCSYHGWSFDGCGCVKIPQAS
SEQ ID NO: 36 DLVIWNDPNSGDWVALDDRCPHRLAPLSEGRIDETGGLQCSYHGWSFDGSGACTRIPQAA
SEQ ID NO: 38 DLVIWKEPKSGEWVALDDRCPHRLAPLSEGRIDETGCLQCSYHGWSFDGSGACTKIPQAM
121 180

***** * ** *** **** ***** ***** ** * *** * * * **
SEQ ID NO: 30 PEGPEAKAVRSPKACAIKFPTLVSQGLLFVWPDENGWEEKATATKPPMLPKEFEDPAFSTV
SEQ ID NO: 32 SEGPEARAIGSPKACATRFPTLVSQGLLFVWADENGWEEKAKASNPPMPDDEFKPEFFTV
SEQ ID NO: 36 PEGPEARAVRSPRACATKFPTLLSQGLLFVWPDENGWGDKAKATKPPMLPKEFDDPAFSTV
SEQ ID NO: 38 PEGPEARAVRSPKACAIKFPTLVSQGLLFVWPDENGWEEKAAATKPPMLPKEFEDPAFSTV
181 240

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Figure 2B

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*****
SEQ ID NO:30 TIQRDLYYGYDTLMENVSDPSHIEFAHXHKVTGRRDRARPLPFKMESSGAWGYSGNSGNP 300
SEQ ID NO:32 NIQRDLFYGYDTLMENVSDPSHIEFAHHKVTGRRDRAKPLPFKMDSRGSWGFGSANGNP
SEQ ID NO:36 TIQRDLFYGYDTLMENVSDPSHIEFAHHKVTGRRDRAKPLPFKMESSGAWGYSGANTGNP
SEQ ID NO:38 TIQRDLFYGYDTLMENVSDPSHIEFAHHKVTGRRDRARPLTFRMESSGAWGYSGANSNP 300
*****
*****
SEQ ID NO:30 RISATFVAPCYALNKIEIDTKLPIFGDQKWVIWICSFNI PMAPGKTRSI VCSARNFFQFS
SEQ ID NO:32 QISAKFVAPCYMMNKIEIDTKLPVVGDKWVWICSFNVPMAPGKTRSI VCSARNFFQFS
SEQ ID NO:36 RITATFEAPCYALNKIEIDTKLPIVGDKWVIWICSFNI PMAPGKTRSI VCSARNFFQFT
SEQ ID NO:38 RITATFEAPCYALNKIEIDTKLPIFGDQKWVIWICSFNI PMAPGKTRSI VCSARNFFQFT 301
*****
*****
SEQ ID NO:30 MPGKAWWQL-----VPRWYEHWT SNLVYDGMIVLQGQEKIFLSAS
SEQ ID NO:32 VPGPAWWQVNVILLFAFNFKQCIHVTQVVPRWYEHWT SNKVYDGMIVLQGQEKIFLSET
SEQ ID NO:36 MPGKAWWQF-----VPRWYEHWT SNLVYDGMIVLQGQEKVFLSAS
SEQ ID NO:38 MPGKAWWQL-----VPRWYEHWT SNLVYDGMIVLQGQEKIFLAAT 420
*****
*****
SEQ ID NO:30 KESSADINQQYTKITFTPTQADRFLVLAFAWLRFKFGNSQPDWFGNPSQEVLPSTVLSKRE
SEQ ID NO:32 KEGG-DINKQYTNITFTPTQADRFLVLAFARWLRRHNGNGQPEWFGNSSDQPLPSTVLSKRQ
SEQ ID NO:36 KESSADVNNQQYTKLFTPTQADRFLVLAFAWLRFKFGNSQPDWYGSPSQDALPSTVLSKRE
SEQ ID NO:38 KESSTDINQQYTKITFTPTQADRFLVLAACRTWLRFKFGNSQPEWFGNPTQEALPSTVLSKRE 480
*****
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Figure 2C

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**** ** ***** * ** ** *
SEQ ID NO: 30 MLDRIEQHTLKCSSCKGAYNAFQTLQKVFMGATVA-----VLLLL-----
SEQ ID NO: 32 MLDRIEQHTLKCSSCKAAYEGFQTWQKVLIGATVVFCAATSGIPSDFQLRVLLAGLAVVSA
SEQ ID NO: 36 MLDRIEQHTLKCSSCKRGAHKAFTLQKVFMGATVVFCAATSGIPADVQLRLLGAGALVSA
SEQ ID NO: 38 MLDRIEQLSLKCSSCKGAYNAFQNLQKVFMGATVVCCAAAGIPPDVQLRLLIGAAALVSA
481 540

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SEQ ID NO: 30 AIAFALNQLQKNFEFVDYVHAEID
SEQ ID NO: 32 ALAYVFYDRQKHFFVVDYVHADID
SEQ ID NO: 36 ALAYVFYDRQKHFFVVDYVHADID
SEQ ID NO: 38 ALAYVFYDRQKHFFVVDYVHADID
541 564
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